

DESCRIPTIONS OF NEW SOUTH AMERICAN HESPERIIDÆ, (LEPIDOPTERA, RHOPALOCERA)

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Onophas watsoni new species. (Fig. I, male genitalia; paratype.)

MALE. Upperside. Primaries, reddish-brown; a discal band of the following rather ill-defined, yellowish spots: two small ones in interspace 1, a larger one in interspace 2, excised on its outer margin, a smaller one in interspace 3; hazy indications of a spot in interspaces 4 and 5, and hazy subapical spots in interspaces 6 and 7. Basal half of the costal margin a little paler than the apical half. Secondaries, same color as the primaries, a little paler in the center of the disc, with long brown hairs from the base of the wing over the disc and along the inner edge of the abdominal fold with a few greenish hairs at its base. Fringes of both wings a little paler than the ground color of the wing.

Beneath. Primaries, spots of the upper side repeated, paler in color; those of interspace 1 fused into one spot, in interspaces 2 and 3 somewhat better defined, those in 4, 5, 6 and 7 hazier than above; costal margin yellow as far as the sub-apical spots; apex and outer margin purple as far as vein 2, the rest of the wing brownish. Secondaries, basal two-thirds yellowish; the entire outer margin from the outer angle to the anal angle broadly purple. Fringes of both wings fuscous.

Thorax, above metallic greenish, beneath, bluish-gray; abdomen, brown above, beneath whitish. Legs, brown above, bluish beneath, with long blue-gray hairs on the thighs, mid tibiæ spined. Head metallic green. Palpi green above, beneath, black interspersed with bluish-gray hairs.

Antennæ, above black, beneath with a pale spot at each joint, basal two-thirds of the club yellowish, and a narrow yellow line on the apiculus.

Expanse. Male, 36 mm.

Stigma similar to that of *Onophas columbaria* Herrich-Schaffer, but somewhat heavier and continued almost to vein 1 in two parts.

The form of the genitalia is very similar to that of *columbaria*.

Described from two males from Annaburg, Santa Catharina, Brazil.

Type, male, in the collection of the American Museum of Natural History, New York City; one male paratype in collection of the author.

This handsome species is named for my good friend Mr. F. E. Watson. The paratype is somewhat worn, and the purple areas

on the underside of the wings of the type are brown in the paratype.

Onophas distigma new species. (Fig. 2, male genitalia; type.)

MALE. Upperside. Primaries, brown, with discal spots as follows: a scarcely perceptible indication of a spot in interspace 1, in interspace 2 an ill-defined spot, yellowish with brown scales intermixed, a smaller and similarly colored spot in interspace 3; a minute, hazy sub-apical spot in interspace 6. Costal margin towards the end of the cell with fulvous scales; at the base of the wing with sparse metallic blue scales. Secondaries, same color as primaries, with long brown hairs in the disc and along the inner edge of the abdominal fold with a few bluish hairs intermixed at the base. Fringes of both wings concolorous, a little lighter at the tips.

Beneath. Primaries, the spot in interspace 1 plainly visible, whitish, the spots in interspaces 2 and 3 paler than above, the subapical spot not repeated; costal margin yellow from the base to beyond the end of the cell, apex and outer margin, as far as vein 2, brown, oversealed with yellow; the rest of the wing black, slightly paler at the anal angle. Secondaries, the basal third yellowish, gradually shading to brown at the margin. Fringes fuscous, paler at the tips, intermixed with yellowish especially so on the secondaries.

Thorax, above metallic bluish and greenish, beneath blue-gray.

Abdomen, above at the base, metallic greenish-blue, the rest brownish, beneath, whitish with a dark line through the center, bluish-gray at the base. Legs, brown above, bluish-gray beneath, thighs with bluish-gray hairs, mid tibiae spined.

Head and palpi above metallic blue-green, palpi beneath blue with some black hairs intermixed. Antennae, black above and beneath, the club beneath yellow, including the apiculus.

The male has no stigma. The form of the genitalia is very similar to that of both *columbaria* and *watsoni*.

Female similar to the male.

Expanse. Male, 34 mm.; female, 36 mm.

Described from one male and two females from Annaburg, Santa Catharina, Brazil.

Type, male, and allotype, female in collection of the author; one female paratype in the collection of the American Museum of Natural History, New York City.

Eutocus schmithi new species. (Fig. 3, male genitalia; paratype.)

MALE. Upperside. Primaries, and secondaries, blackish-brown. Fringes fuscous and lighter scales intermixed, paler at the tips, somewhat paler on the secondaries.

Beneath. Primaries, costal margin reddish; outer margin from apex to vein 3, lilac, which extends inwardly as spots between veins 4 and 7, two

antemarginal rows of dark spots, and a reddish-brown marginal line, the rest of the wing is black, somewhat paler at the inner margin; a lilac sub-apical spot between veins 8 and 9. Secondaries, reddish-brown, abdominal fold brown, inner margin narrowly reddish-brown sprinkled with lilac; a band of lilac scales extends across the wing from near the center of the costal margin, around the cell-end to near the base of the abdominal fold, another broad lilac band extends from the outer angle to the abdominal fold and includes all of the lower part of the wing, and is cut into by one or two fine lines of the ground color running outwardly from the abdominal fold, just above the anal angle; a sub-marginal row of dark spots, and a reddish marginal line along the outer border. Fringes, of both wings darker than above, paler at the tips and still paler at the anal angle of the secondaries.

Thorax, above brownish with some paler scales at the sides near the wing base; shoulder covers with brown and reddish hairs intermixed, beneath, fuscous. Abdomen, above brown, beneath, pale reddish-brown. Legs, brown with reddish-brown hairs. Head reddish-brown. Palpi, reddish and black intermixed. Antennæ, black above, beneath yellowish.

A triangular stigma fills the base of interspace 2.

Female similar to the male but both the female and the male paratype have a second sub-apical spot on the primaries beneath, between veins 7 and 8, and a faint indication of sub-apical spots on the upper side.

Expanse: Male and female, 30 mm.

Described from one male from Hansa Humboldt, one male from Blumenau, one female from Annaburg, all in Santa Catharina, Brazil.

Type, male, Hansa Humboldt, allotype, female, Annaburg, in collection of the American Museum of Natural History, New York City; paratype, male, Blumenau, in collection of the author.

This species is superficially very similar to *Megistias* (?) *ranesus* Schaus, which has a stigma of similar form; *schmithi* is somewhat larger than *ranesus* and lacks the red spot at the base of the secondaries beneath; the genitalia are also different, as may be seen by comparing figures 3 and 4.

Named for Mr. Karl Schmith, of Hansa Humboldt, Brazil.

Eutychide maculata new species. (Fig. 5, male genitalia; type.)

MALE. Upperside. Forewings, red-brown, with seven small spots as follows: three in a transverse discal row, the lowest on vein 1, semi-hyaline, one between veins 2 and 3, one between veins 3 and 4, two in the cell, the upper one obliquely over the lower, two sub-apical spots; all of the last six

spots mentioned are white hyaline. Fringes paler. Secondaries, same color as primaries, immaculate. Fringes paler.

Beneath. Primaries, red-brown, paler at the costal margin and apex; spots of the upper side repeated, the one on vein 1 being elongated to the outer margin as a diffused whitish patch. Secondaries, red-brown, with a slightly paler, narrow marginal area. Four small yellow spots in a curved discal row and one in the cell-end.

Body, above red-brown, beneath on the abdomen yellowish. Legs paler brown. Head and palpi, above brown mixed with yellow; palpi, beneath yellow. The antennæ are unfortunately lost in this specimen.

Expanse: 32 mm.

Described from one male from Santa Cruz, Bolivia, which is designated as the type and is in the collection of the author.

The stigma is of the usual form of *Eutychide* but the parts are narrow, not so greatly developed as in some of the species in this genus.

Eutychide hyalinus new species. (Fig. 6, male genitalia; type.)

MALE. Upperside. Primaries, brown with four white-hyaline spots as follows: a small spot on vein 1, a large quadrate spot between veins 2 and 3, a smaller subquadrate spot between veins 3 and 4, a sub-apical spot between veins 6 and 7. Fringes concolorous. Secondaries, same color as primaries, a hazy indication of a paler discal spot. Fringes concolorous, a little paler at the tips.

Beneath. Primaries, costal margin, apex and outer margin as far as vein 2 purplish; rest of the wing black, spots of the upper side repeated, that in interspace 1 is enlarged by whitish scaling. Secondaries, purplish, the veins brownish; hazy indication of a pale discal patch.

Thorax, above dark brown and greenish; abdomen brown above, beneath whitish. Legs brown. Head and palpi, above brown and greenish, mixed; palpi, beneath fuscous mixed with whitish. Antennæ, above black, beneath narrowly yellowish, including nearly all of the club, apiculus reddish.

Expanse: 32 mm.

The stigma is of the form found in this genus, but the parts are rather narrow.

Described from one male from Hansa Humboldt, Santa Catharina, Brazil, which is designated as the type and is in the collection of the author.

The form of the genitalia of *hyalinus* is similar to that of *orthos* Godman, but superficially the two are quite different.

Thoon viridis new species. (Fig. 7, male genitalia; type.)

MALE. Upperside. Primaries, and secondaries, immaculate dark brown. Fringes concolorous, slightly paler at the tips.

Beneath. Primaries, costal margin, apical area and outer margin as far as vein 2, olive-greenish, the rest of the wing dull blackish; a barely perceptible paler streak above vein 1; a minute whitish sub-apical spot between veins 6 and 7. Secondaries, olive-greenish, three whitish spots, one each between veins 3-4, 4-5, 5-6, and another in the cell.

Thorax, above, greenish; abdomen, black, with a few reddish hairs at the sides; thorax, beneath fuscous with a greenish tinge; abdomen paler. Legs brown. Head and palpi, above, greenish; palpi, beneath, fuscous and yellowish mixed, with a greenish reflection at the base. Antennæ, above and beneath, black, the club, yellowish in the basal two-thirds with a few brown spots.

Expanse: male, 38 mm.

The stigma is two small spots, one above and one beneath vein 2, near its base.

Described from one male from Cochabamba, Bolivia, which is designated the type and is in the collection of the author.

Cobalus huntingtoni new species. (Fig. 8, male genitalia; paratype.)

MALE. Upperside. Primaries, dark brown, with six whitish hyaline spots as follows: a subquadrate spot between veins 2 and 3, a smaller one between veins 3 and 4, two spots in the cell, one directly above the other, and just above the spot in interspace 2 (in the paratype the cellular spots are fused into one spot constricted in the middle), two minute sub-apical spots. At the base of the wings with some greenish hairs. Secondaries, same color as the primaries, with two whitish hyaline spots beyond the cell-end. Fringes concolorous, paler at the anal angle of the secondaries, a few greenish hairs at the base.

Beneath. Primaries, costal margin, apical area and outer margin as far as vein 2, dark red, some yellow scales in the cell just inside the cellular spots; disc of the wing, black, paler at the inner margin; spots of the upper side repeated; a very hazy indication of a third sub-apical spot above the other two: a large pale yellow spot in interspace 1 under the discal band. Secondaries, dark red, spots of the upper side repeated. Fringes as above.

Body. Thorax above, dark green and blue; abdomen, dark brown; beneath, thorax with greenish and fuscous hairs mixed; abdomen reddish with paler scales at the joints. Legs, above brown with some reddish scales, beneath yellowish or pale brownish. Head and palpi, above green, palpi, beneath reddish brown, paler at the base; pectus reddish brown and green. Antennæ, black above and beneath, except the club beneath is yellow.

No stigma.

Expanse: male, 44 mm.

Described from two males from Annaburg, Santa Catharina, Brazil.

Type, male, in collection of the American Museum of Natural History, New York City. Paratype, male in the collection of the author.

Named for my good friend Mr. E. Irving Huntington.

This species is very similar to *Cobalus fortis* Schaus, but differs in the shape of the hyaline spots of the primaries, in having but two sub-apical spots against three in *fortis*, in the much darker ground color of the wings beneath, and in the lack of the yellow overscaling of the underside of the wings.

Cobalus boliviensis new species. (Fig. 9, male genitalia; paratype.)

MALE. Upperside. Primaries, brown, heavily oversealed with yellow in the discal and basal area, sparsely so almost to the outer margin, some greenish-yellow hairs along the inner margin; five spots as follows: an accumulation of yellow scales about the center of vein 1, not forming a well defined spot (this spot is more prominent in the type than in any of the others, entirely absent in one), a yellow subhyaline spot between veins 2 and 3, excised on its outer side, a smaller and similar spot between veins 3 and 4, two yellow subhyaline sub-apical spots between veins 6-7 and 7-8. Fringes concolorous. Secondaries, same color as primaries, with greenish-yellow hairs from the base over the disc and along the abdominal fold's inner margin; two yellowish sub-hyaline spots beyond the cell-end. Fringes concolorous.

Beneath. Primaries, ferruginous, a black spot at the extreme base below the cell, the discal area a little darkened, a yellow streak through the upper part of the cell, spots of the upper side repeated, that in interspace 1 very large and yellow. Secondaries, ferruginous, with scattered yellow overscaling, spots of the upperside repeated. Fringes fuscous with ferruginous scales at the base.

Body; thorax, above yellowish-green; abdomen, with yellowish-green hairs at the base, the rest ferruginous; beneath, thorax with yellowish-green hairs; abdomen pale yellowish. Legs brown, striped yellowish beneath. Head and palpi above yellowish-green, palpi beneath, yellow, with scattered scales black tipped; pectus yellowish. Antennæ, above black, beneath narrowly yellowish, the basal three-quarters of the club bright yellow and apiculus red.

No stigma.

Expanse: 42 mm.

Described from four males from Santa Cruz, Bolivia.

Type, male, in collection of the American Museum of Natural History, New York City; three male paratypes in the collection of the author.

Moeris mapirica new species. (Fig. 10, male genitalia; type.)

MALE. Upperside. Primaries, reddish-brown, indistinct discal spots between veins 2 and 3, 3 and 4, and three indistinct sub-apical spots; the cellular area darker than the rest of the wing. Secondaries, same color as the primaries. Fringes, slightly paler than the ground color of the wings.

Beneath. Primaries, purplish, a darker purple patch beyond the cell-end; below vein 2 pale brownish to the inner margin; ill-defined lilac spots in the interspaces between veins 2 to 8, forming a curved row from below the cell-end around the dark purple patch; a diffused light brown area at the anal angle; veins pale brown, contrasting in the purple area to the apex. Secondaries, purple, the costal margin very dark purple, and a broad discal band of the same color from the outer angle to the inner margin; basal and marginal third of the wing paler; hazy indications of lilacine spots bordering the dark discal band on its outer edge.

Body; thorax above greenish, abdomen brown; beneath, thorax and abdomen whitish. Legs yellowish-brown. Head and palpi, above fuscous mixed with yellowish; palpi beneath white, towards the tip mixed with yellowish and black. Antennæ, above black; beneath, basal half black, upper half including the club, yellow. Stigma not as well developed as in *striga* Hubner, the part between veins 1 and 2 being very small, the lowest spot hardly visible.

Expanse: male, 32 mm.

Described from one male from Mapiri, Bolivia; which is designated as the type and is in the collection of the author.

Augiades gloriosa new species. (Fig. II, male genitalia; type.)

Male. Upperside. Primaries, apex and outer margin broadly black, a discal band of four spots from the inner margin to the cell-end, two small extra-discal spots and three sub-apical spots, all fulvous; costal margin fulvous, a fulvous spot in interspace 1 from the stigma to the base; a black spot between the extra-discal spots and the cell-end, which is extended as a heavy black line along the apical third of the cell on its costal edge and terminates as a small spot just within the cell; median vein heavily black from the stigma to the base of the wing; all of the veins black. Secondaries, costa, outer margin, and anal angle broadly black, basal third black with a fulvous spot in the cell; a broad, curved, fulvous discal band, crossed by the black veins. Fringes fulvous at the anal angle of the primaries, becoming fuscous at the apex; of the secondaries, fulvous.

Beneath. Primaries, costa, apex, and outer margin grayish-yellow, cell fulvous, spots in interspaces 2 and 3 fulvous, that in interspace 1 yellow, all three bordered externally with black, a black stripe across the cell-end, below the cell black to the discal spots. Secondaries, grayish-yellow, the discal band and cellular spot repeated, another spot at the costal margin above the cellular spot, all pale yellow. Fringes as above but paler.

Body. Thorax, above greenish with yellow hairs at end of shoulder covers; abdomen black with fulvous hairs, yellow on the sides; beneath, thorax yellow; abdomen white; anal extremity fulvous. Legs fulvous. Head, above greenish-yellow; palpi above and beneath yellow; pectus, yellow. Antennæ, above black; beneath, orange; apiculus, reddish.

Female. Upperside. Primaries, dark brown with a purplish tinge towards the base, paler at the costal margin almost to the cell-end; some greenish hairs above and below vein 1 towards the base; eight semi-hyaline, white spots as follows: three in a transverse discal band, that in interspace 2 is the largest, a minute dot about the center of interspace 4, three sub-apical, of which the upper is the smaller, a spot in the cell obliquely above that in interspace 2. Secondaries, same color as the primaries, a discal row of five yellow spots, and hazy indications of two more spots between the lowest yellow spot and the inner margin, a small yellow spot in the cell; some greenish hairing in the basal part of the cell and along the inner margin of the abdominal fold.

Beneath. Primaries, costal margin and apical area to vein 1, pale brownish, rest of the wing purple-black, paler at the inner margin; spots of the upper side repeated, the one in interspace 1 enlarged and extended toward the outer margin, diffused outwardly. Secondaries, pale brown, spots of upper side repeated, pale yellow and overscaled with the ground color, the lowest of the two hazy spots of the upper side is repeated as a distinct spot, the other absent; veins slightly paler in the outer half.

Body. Thorax, above with some brown hairs at the end; abdomen, brown with yellow hairs on the sides; beneath, thorax yellowish; abdomen white. Legs pale brown. Head and palpi, above greenish and yellow; palpi beneath and pectus, yellow. Antennæ as in the male.

Expanse: male, 41 mm.; female, 44 mm.

Described from one male and two females from Hansa Humboldt, Santa Catharina, Brazil.

Type, male, and allotype, female, in the collection of the author; paratype, female, in the collection of the American Museum of Natural History, New York City.

All measurements of wing expanse are from center of the thorax to the apex $\times 2$.

PLATE IX

- Figure 1. *Onophas watsoni* (paratype).
Figure 2. *Onophas distigma* (type).
Figure 3. *Eutochus schmithi* (paratype).
Figure 4. *Megistias raneus* Schaus.
Figure 5. *Eutychide maculata* (type).
Figure 6. *Eutychide hyalinus* (type).
Figure 7. *Thoon viridis* (type).
Figure 8. *Cobalus huntingtoni* (paratype).
Figure 9. *Cobalus boliviensis* (paratype).
Figure 10. *Moeris mapirica* (type).
Figure 11. *Augiades gloriosa* (type).